

AVICENNIA ALBA Blume

Sørensen, Larsen, & Hansen describe the cortex as black.

Additional citations: KOH CHANG ISLAND: Sørensen, Larsen, & Hansen 7099 (Cp). THAILAND: Floto 7832 (Z); Sørensen, Larsen, & Hansen 537 (Cp), 2016 (Z).

AVICENNIA MARINA (Forsk.) Vierh.

The Sørensen, Larsen, & Hansen 120 specimen cited below has a broad leaf-miner tunnel in one of its leaves.

Additional citations: KOH CHANG ISLAND: Sørensen, Larsen, & Hansen 120 (Cp), 7098 (Cp). THAILAND: Floto 7820 (Z).

AVICENNIA OFFICINALIS L.

Additional literature: Sim, For. Fl. Cape Col. 287, pl. 120, fig. 3. 1907.

MATERIALS TOWARD A MONOGRAPH OF THE GENUS STYLODON

Harold N. Moldenke

This is the twenty-third in my series of works of monographic nature on the genera of Verbenaceae, Avicenniaceae, Stilbaceae, and Symphoremaceae. Previous genera so treated were Aegiphila Jacq., Amasonia L. f., Avicennia L., Baillonia Bocq., Bouchea Cham., Casselia Nees & Mart., Castelia Cav., Chascanum E. Mey., Citharexylum B. Juss., Cornutia Plum., Parodianthus Troncoso, Petitia Jacq., Petrea Houst., Priva Adans., Pseudocarpidium Millsp., Recordia Moldenke, Rehdera Moldenke, Rhaphithammus Miers, Svensonia Moldenke, Tectona L. f., Vitex Tourn., and the New World and cultivated members of Callicarpa L.

Full explanation of the abbreviations employed for the names of the 255 herbaria whose material was examined in the preparation of these works and of the present paper will be found in Phytologia 5: 154-159 (1955), 6: 242 (1958), and 7: 91-92 & 123-124 (1960), with the following addition:

Gp = Ontario Agricultural College, Guelph, Ontario, Canada

STYLODON Raf., Neogenyt. 2. 1825.

Synonymy: Styleurodon Raf., Fl. Tellur. 2: 104. 1836.

Literature: Medic., Bot. Beobacht. 1783: 131. 1784; Walt., Fl. Carol. 166. 1788; Michx., Fl. Bor.-Am. 2: 14. 1803; Steud., Nom. Bot., ed. 1, 1: 873. 1821; Raf., Neogenyt. 2. 1825; Raf., Fl. Tellur. 104. 1836; Steud., Nom. Bot., ed. 2, 750. 1840; Schau. in A. DC., Prodr. 11: 545. 1847; A. W. Chapm., Fl. South. U. S., ed. 1, pr. 1, 307. 1860; A. Wood, Class-book, pr. 1, 537 (1861) and pr. 2, 537. 1863; A. W. Chapm., Fl. South. U. S., ed.

1, pr. 2, 307. 1865; A. Wood, Class-book, pr. 3, 537 (1867), pr. 4, 537 (1868), and pr. 5, 537. 1869; A. W. Champl., Fl. South. U. S., ed. 1, pr. 3, 307 (1872), ed. 2, pr. 1, 307 (1884), and ed. 2, pr. 2, 307. 1889; Jacks., Ind. Kew. 2: 504 (1894) and 2: 1011, 1012, & 1178. 1895; A. W. Champl., Fl. South. U. S., ed. 3, 368—369. 1897; Earle, Bull. Ala. Agr. Exp. Sta. 119: 101. 1902; Small, Fl. Southeast. U. S., ed. 1, 1009 (1903) and ed. 2, 1009. 1913; Britton & Br., Illustr. Fl., ed. 2, 3: 95. 1913; Seymour, Host Ind. Fungi N. Am. 587. 1929; Moldenke, List Spec. Mold. Southeast. Set 10. 1930; Perry, Ann. Mo. Bot. Gard. 20: 309. 1933; Small, Man. Southeast. Fl. 1135 & 1508. 1933; Briq., Internat. Rules Bot. Nomencl., ed. 3, 24. 1935; Britton & Br., Illustr. Fl., ed. 2 rev., 3: 95. 1936; Moldenke, Rev. Sudam. Bot. 5: 2. 1937; Cory, Texas Agr. Exp. Sta. Bull. 550: 88. 1937; Moldenke, Annot. List 108. 1939; Moldenke, Geogr. Distrib. Avicenn. 1—3. 1939; Moldenke, Prelim. Alph. List Invalid Names 36, 42, & 45. 1940; Moldenke, Suppl. List Invalid Names 1 & 8. 1941; Worsdell, Ind. Lond. Suppl. 2: 422. 1941; Moldenke, Alph. List Invalid Names 7, 36, 43, & 46. 1942; Moldenke in Lundell, Fl. Texas 3 (1): 47—48. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 4—6, 12, & 100. 1942; Merrill, Guide Fla. Pl. 46. 1945; Moldenke, Am. Journ. Bot. 32: 609. 1945; Moldenke, Alph. List Cit. 1: 13, 15, 31, 38, 42, 77, 81, 91, 99, 103, 118, 129, 138—140, 175, 191, 195, 197, 203, 211, 234, 239, 240, 262, 267, 276, 291, & 293—296. 1946; Moldenke, Alph. List Invalid Names Suppl. 1: 18, 23, & 28. 1947; H. N. & A. L. Moldenke, Pl. Life 2: 30. 1948; Moldenke, Castanea 13: 121. 1948; Moldenke, Alph. List Cit. 2: 391, 393, 413, 438, 454, 467, 469, 471, 479, 510—513, 519, 545, 559, 568, 576, 585, 617, 630, & 632 (1948), 3: 658, 660, 683, 698, 699, 721, 741, 742, 750, 755, 759, 776, 778, 789, 798, 835, 841, 842, 850, 880, 898, 939, & 942 (1949), and 4: 990, 998, 1003, 1107, 1110, 1112, 1118, 1141, 1177, 1181, 1192, 1198, 1210, 1228, & 1238. 1949; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 12. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 7, 8, 10, 11, 18, 23, 163, & 196. 1949; Moldenke, Am. Wild Fls. 293, 446, & 450. 1949; Moldenke, Phytologia 3: 72, 131, & 132. 1949; Fern. in A. Gray, Man. Bot., ed. 8, 1209, 1211, & 1612, fig. 1467. 1950; Moldenke in Gleason, New Britton & Br. Illustr. Fl., pr. 1, 3: 126. 1952; Thorne, Am. Midl. Nat. 52: 313. 1954; Moldenke in Gleason, New Britton & Br. Illustr. Fl., pr. 2, 3: 126. 1958; Moldenke, Résumé 10, 11, 13—15, 23, 28, 222, 240, 334, 350, 361, 365, 378, 405, & 470. 1959; Moldenke, Résumé Suppl. 1: 2 (1959) and 2: 11. 1960.

Illustrations: Small, Man. Southeast. Fl. 1135. 1933.

Cinereous-pubescent perennial herbs with simple or sparingly branched tetragonal stems; leaves simple, opposite, exstipulate, sessile, the blades net-veined, serrate, scabrous above; inflorescence centripetal (racemose), in elongate inconspicuously bracteate spikes; flowers hypogynous, perfect, complete, zygomorphic; calyx gamosepalous, tubular-campanulate, 5-costate, its rim sharply 5-lobed; corolla gamopetalous, colored, rarely white, salverform, its limb unequally 5-lobed; stamens 4, in-

serted at or above the middle of the corolla-tube, included, didynamous; filaments extremely short; anthers unappendaged, 2-celled, the thecae parallel; pistil one, included; style short; stigma very shortly 2-lobed, the larger lobe stigmatiferous, the smaller one tooth-like; ovary 4-celled, each cell 1-ovulate; ovules erect; fruit nut-like, ridged, with 4 broad plane surfaces at the top which form a cap-like beak; cocci 4, not readily separating.

This is a monotypic genus of the southeastern United States. The type species is Phryma caroliniensis Walt. [= Stylodon carneus (Medic.) Moldenke]. The generic name was proposed as neuter by Rafinesque, but under Article 72 (2) of the International Rules of Botanic Nomenclature — cited under Briquet above — all generic names ending in -odon are to be masculine in gender.

In Lundell, Fl. Texas 3 (1): 47 (1942) the page citation for the original publication of Styleurodon Raf. is given as "14" — this is a typographic error for "104".

The genus is closely related to Verbena L. In Stylodon the fruit is nutlet-like and beaked, with the cocci not readily separating, while in Verbena the fruit is schizocarpous, not beaked, and the cocci are easily separable when ripe.

STYLODON CARNEUS (Medic.) Moldenke, Rev. Sudam. Bot. 5: 2. 1937.

Synonymy: Verbena carnea Medic., Bot. Beobacht. 1783: 131.

1784. Phryma caroliniensis Walt., Fl. Carol. 166. 1788. Verbena caroliniana Michx., Fl. Bor.-Am. 2: 14. 1803 [not V. caroliniana L. ex Schau., 1847, nor Murr., 1774, nor Spreng., 1847, nor Willd., 1798]. Stylodon scabrum Raf., Neogenyt. 2. 1825. Verbena caroliniana L. ex Raf., Neogenyt. 2, in syn. 1825. Phryma caroliniana Walt. ex Raf., Neogenyt. 2, in syn. 1825. Styleurodon carolinianum Raf., Fl. Tellur. 2: 104. 1836. Verbena caroliniana Medic. ex Steud., Nom. Bot., ed. 2, 750. 1840. Verbena caroliniana Hort. ex Schau. in A. DC., Prodr. 11: 545, in syn. 1847. Verbena carolinensis (Walt.) J. F. Gmel. ex Small, Fl. Southeast. U. S., ed. 1, 1009. 1903 [not V. carolinensis Dill., 1847]. Verbena carolinensis Small apud Perry, Ann. Mo. Bot. Gard. 20: 309, in syn. 1933. Stylodon carolinensis (Walt.) Small, Man. Southeast. Fl. 1135 & 1508. 1933. Phryma carolinensis Walt. apud Small, Man. Southeast. Fl. 1135, in syn. 1933. Buchnera carolinensis (Walt.) Gmel. ex Moldenke, Suppl. List Invalid Names 1, in syn. 1941. Verbena caroliniensis (Walt.) J. F. Gmel. ex Moldenke, Suppl. List Invalid Names 8, in syn. 1941. Verbena carolinensis (Walt.) Small ex Moldenke, Alph. List Invalid Names 46, in syn. 1942. Verbena carolinense (Walt.) Gmel. ex Moldenke, Alph. List Invalid Names Suppl. 1: 23, in syn. 1947. Verbena verticifolia L. ex Moldenke, Alph. List Invalid Names Suppl. 1: 28, in syn. 1947. Verbena carolinensis Gmel. ex Moldenke, Résumé 361, in syn. 1959. Verbena carolinianum L. ex Moldenke, Résumé 361, in

syn. 1959. Verbena verbenaeifolium Michx. ex Moldenke, Résumé 378, in syn. 1959. Verbena hastata x stricta Ravenel ex Moldenke, Résumé 365, in syn. 1959 [not V. hastata x stricta Allen, 1958, nor Anderson, 1958, nor Elmore, 1958, nor Gates, 1947, nor Rydb., 1894]. Stylodon carolinense Raf. ex Moldenke, Résumé 350, in syn. 1959. Stylodon carolinensis Walt. ex Moldenke, Résumé 350, in syn. 1959. Verbena caroliniana (Walt.) Michx. ex Moldenke, Résumé Suppl. 2: 11, in syn. 1960.

Cinereous, scabrid-hirtellous, perennial herb 15--80 cm. tall, with a creeping rhizome and fibrous roots; stems simple or sparingly branched above, ascending, tetragonal, puberulent or hirtellous; leaves spatulate or oblong-spatulate to oblong, or the upper ones oblong-hastate, sessile, cuneate-attenuate at the base, obtuse at the apex, 2.5--5 cm. long, shallowly and doubly serrate-dentate, entire toward the narrowed base, scabrous and rugose above, less harsh and spreading-pubescent along the prominently reticulate veins beneath; spikes terminal, pedunculate, slender or filiform, elongate, chiefly solitary but occasionally in 3's; flowers rather remote on the rachis, more crowded near and at the tips of the spikes, more widely separated in fruit; bractlets lanceolate or lanceolate-subulate, one-third to one-half as long as the calyx, glandular-pubescent; calyx 4--5 mm. long, glandular-pubescent, its lobes or teeth unequal, acute at the apex; corolla varying from flesh-color, pink, pale-pink, or pinkish-white to rose, lavender, or blue, occasionally white, white with pink exterior, or white with a purple-tinged tube, usually about half again as long as the calyx, its tube slightly longer than the calyx, pubescent on the outer surface, its limb about 5 mm. wide, the segments subtruncate; anthers glandless; fruit nut-like, about 3 mm. long, not readily separating into 4 cocci, longitudinally sulcate and commonly scrobiculate on the upper part, with 4 broad plane surfaces at the tip which form a cap-like beak.

No actual type of Medicus' Verbena carnea is known. The late Dr. J. H. Barnhart, in a memorandum to me in the autumn of 1941, says "I have never heard of any Medicus specimens. He was in charge of the palace garden at Mannheim, and very likely described from living plants. Whether he or the garden had a herbarium, I do not know, but if so it may have been destroyed in the Austrian bombardment of 1796, which nearly wiped out the town. The old-time palace garden was at last accounts a public park; perhaps, after 160 years, the verbenas still grow there! As far as I know, the present-day herbarium nearest (10 miles) to Mannheim is at the University of Heidelberg, and is very little known to taxonomic botanists. If it were not for this war inquiries might locate Medicus specimens there, but that is not likely."

Medicus' original description is "Die Oeffnung des Blumenrohres ist, wie bei den vorher gehenden [V. mexicana, V. nodiflora, V. officinalis, V. obletia, V. caroliniana] mit einem dichten Kreise feiner Haare geschlossen, und unter dieser Ueber-

wölbung stehen die vier Staubfäden, von denen die mittlern etwas höher, als die beiden andern sind, und haben kaum sichtbare Fäden. Der Griffel scheint auch aus zwei Haarröhrchen zu bestehen, und hat oben zwei Narben; die eine halbkugelförmig, die andere neben daran stehende stachelförmig und abstehend. Oft habe ich auch zwei kugelförmige Narben angetroffen. Ueberhaupt sind hier die Narben in Betracht ihrer Größe sehr beträchtlich. Die Blume ist fleischfarben. Viel kommt diese Art mit der vorher gehenden überein, auser in den Narben, und die Farbe der Blume. Auch ist ein Unterschied an den Blättern." It is of interest to note that the species to which he compares his plant are actually Priva mexicana (L.) Pers., Phyla nodiflora (L.) Greene, Verbena officinalis L., V. canadensis (L.) Britton, and V. carolina L.

Schauer, in the reference cited above, cites Beyrich, Bosc, and Fraser specimens from "Carolina" and a Mitchell specimen from Florida. The only common names recorded for the plant are "Carolina verbena", "Carolina vervain", and "Carolinavervain". It has been collected in sandy barrens, pine barrens and dry pine barrens, in woods, dry sandy woods, dry sandy open woods, and dry oak woods, in upland pinelands, high pinelands, dry pinelands, open pinewoods, and moist pinewoods, in old fields and waste ground, and on dry banks. Collectors report it from live oak hammocks, dry woods, open fields, dry sandy open places, and moist sandy soil along lakesides, also in sand hills, on dunes along beaches, in sandy ground, and in dry soil and fields generally; also on a university campus. It is typically a plant of the Coastal Plain from North Carolina to Florida and west to Louisiana and Texas. It has been found at 40 feet altitude. It has been recorded from Virginia by Britton & Brown, but I have not as yet seen a specimen from that state. Earle, in the reference cited above, says it is "frequent in dry sandy woods" in Alabama. It has been collected in flower and in fruit from April to August.

Specimens of this plant have been confused with and misidentified in herbaria as V. canadensis (L.) Britton, V. polystachya H.B.K., V. stricta Vent., V. scabra Vahl, V. carolina L., and Buchnera americana L. Ravenel thought that his specimen was "probably" a hybrid between V. hastata L. and V. stricta Vent. It is worth noting here that V. hastata x stricta of Allen is actually V. stricta f. albiflora Wadmond, of Elmore is V. hastata L., and of Anderson, of Gates, and of Rydberg are xV. rydbergii Moldenke.

The "Index Kewensis" (2: 504. 1894) reduces Phryma carolinensis Walt. to P. leptostachya L. of the Phrymaceae, and reduces Stylodon scabrum Raf. and Styleurodon carolinianum Raf. to Verbena carolina L.

Godfrey & Tryon 180 in the Duke University herbarium contains a package of fine seeds which show the generic characters of this plant exceptionally well. The O'Neill s.n. [Brooksville, July 2, 1929], determined as this species, is actually

Eupatorium verbenaeifolium Michx. The Collector undesigned s.n. in the University of Vermont herbarium is a mixture with Verbena tampensis Nash, while the T. Drummond s.n. at Stockholm is a mixture with V. xutha Lehm.

O'Neill found Stylodon carneus growing on an average of 260 plants per acre at Madison, Florida. Seymour records the following fungi as attacking this plant: Cercospora septatissima Tracy & Earle, C. truncatella Atk., and C. verbenicola Ell. & Ev. Martius, on his no. 1470, makes this interesting comment: "an proles hybrida folia Verbenae strictae flores V. urticifolia."

In all, 188 herbarium specimens have been examined.

Citations: NORTH CAROLINA: Bladen Co.: R. K. Godfrey 49207 (No--15897). Brunswick Co.: Oosting 3572 (H--28952, N). Craven Co.: Randolph & Randolph 535 (Ba). Harnett Co.: W. B. Fox 3636 (No--23361); R. K. Godfrey 4239 (H--47043); B. W. Wells s.n. [6/15/1927] (No--8598), s.n. [5/23/1929] (No--8596). Moore Co.: Blomquist & Anderson 10277 (H--50264); B. Knipe s.n. [June & July 1901] (Cm). New Hanover Co.: Macfarlane's Party s.n. [June 16--22, 1894] (Up--36363). Pender Co.: M. E. Hyams s.n. [Burgaw, July 1879] (Bc), s.n. [Burgaw, May 1880] (Ka). Sampson Co.: Fox & Boyce 3795 (N). Wake Co.: Collector undesigned s.n. [Raleigh] (N). Wayne Co.: B. W. Wells s.n. [July 2, 1946] (No--8594). County undetermined: Ashe s.n. [southeastern North Carolina] (Po--63898). SOUTH CAROLINA: Aiken Co.: Ravenel s.n. [Aiken, May '67] (Ms), s.n. [Aiken, July 1870] (N). Charleston Co.: Gibbes s.n. [Charleston, 1838] (N). Georgetown Co.: Godfrey & Tryon 180 (Gg--290706, H--58065, It, N). Orangeburg Co.: House 3276 (N). County undetermined: Gibbes s.n. (N); F. V. Hayden s.n. (Up--17101). GEORGIA: Baker Co.: R. F. Thorne 4026 (N, Vi). Burke Co.: Ellis s.n. [Alexander] (Po--64685). Chatham Co.: Oemler s.n. [1837] (Lu). Crawford Co.: D. E. Eyles 2575 (Sa). Dodge Co.: W. H. Duncan 5028 (Gu). Dougherty Co.: J. K. Small s.n. [May 24--28, 1895] (C). Emanuel Co.: Craig & Craig 3395 (Po--248456). Laurens Co.: W. H. Duncan 4991 (N). Lowndes Co.: Quarterman 508 (H--69536). Richmond Co.: Cuthbert 268 (N), s.n. [Augusta, June 12, 1898] (Fl--21095, Fl--21096), s.n. [Augusta, July 31, 1898] (Fl--21095), s.n. [Augusta, July 1, 1899] (Fl--21098), s.n. [Augusta, May 14] (Fl--21097). Tift Co.: Woodroof & Jenkins s.n. [near Tifton, May 17, 1939] (Ga, Ga). Toombs Co.: McKay s.n. [29 Aug. 1929] (Gu). County undetermined: Feay s.n. [Ga.] (Pa); Mattams s.n. [Ga.] (Pa). FLORIDA: Alachua Co.: Arnold & West s.n. [17 April 1935] (Fl--21054); J. H. Barnhart 2039 [Herb. Barnhart 2486] (N); O'Neill 483 (I), 986 (I); Van Hyning s.n. [April 17, 1924] (Ob--50784); G. F. Weber s.n. [4-1-28] (Fl--21100), s.n. [4-15-28] (Fl--21102). Bradford Co.: H. C. Beardslee s.n. [April 26, '37] (Ob--97285). Calhoun Co.: H. C. Beardslee s.n. [Apr. 21,

1939] (Ob--97286). Clay Co.: Ganby s.n. [Hibernia, July 12] (C, Pr). Columbia Co.: Watson & Murrill s.n. [4/30/39] (Fl--30163). Duval Co.: Curtiss 1959 (Bc, Cm, I, Mm--15399, Or--8856, Up--17100, Vi, Vt), 4386 (Du--90893, Es), 4765 (Al, C, Es, Io--38753, Mm--15398), 6159 (Fl--21093, Ur, Vt), s.n. [Apr. 29, 1893] (Ob--50787); Fredholm 110 (Po--70982); Lighthipe 116 (N, Ob--50785), s.n. [So. Jacksonville, Apr. 29, 1896] (Mi). Escambia Co.: G. L. Fisher s.n. [Pensacola, May 11, 1928] (Ew, Fs, Gg--230878); Macfarlane s.n. [Pensacola, June 1905] (Up--40306); Tisdale s.n. [5-2-33] (Fl--21103). Franklin Co.: Biltmore Herb. 4761a (N). Hernando Co.: Chrysler & Johnson 295 (Ru); McFarlin 4954 (Gg--237862, I); H. N. Moldenke 5946 (N). Jackson Co.: Mulvania 75 (Hp). Jefferson Co.: Lighthipe s.n. [April 4, 1891] (Ob--50786). Lake Co.: A. S. Hitchcock s.n. [vicinity of Eustis, June & July 1894] (Ka), s.n. [Eustis, 1894] (Fl--21094); Nash 601 (Es, Es, Mi, Mm--15400). Leon Co.: Berg s.n. [near Tallahassee] (N). Liberty Co.: Arnold s.n. [22 July '40] (Fl--32352). Madison Co.: O'Neill s.n. [Madison, August 1, 1929] (I). Marion Co.: H. N. Moldenke 1091 (Go, H--5463, N, S, Up, Ur). Orange Co.: F. K. Lewton s.n. [Lake Brantley, July 7, 1894] (N); F. L. Lewton s.n. [June 26, 1894] (No--22740). Palm Beach Co.: H. C. Beardslee s.n. [Lake Worth, March 1928] (Ob--97283). Polk Co.: Buswell s.n. [March 30, 1919] (Bu). Putnam Co.: Laessle s.n. [5/18/40] (Fl--32353). Saint Johns Co.: M. C. Reynolds s.n. [St. Augustine, 1877] (N). Seminole Co.: H. C. Beardslee s.n. [Longwood, November 1927] (Ob--97291). Volusia Co.: E. Brainerd s.n. [March 30, 1909] (Vt); Chrysler & Johnson 335 (Ru); La Force s.n. [April 6, 1921] (Al). Wakulla Co.: Rugel s.n. [inter Tallahassee et St. Marks] (M). Walton Co.: West & Arnold s.n. [4/28/38] (Fl--29767). Washington Co.: Small, Mosler, & Matthaus 12831 (N). County undetermined: Buckley s.n. (Io--15345); Boher s.n. [McMuhin, Aug. 7, 1932] (Ob--97284); Chapman s.n. (C); Collector undesignated s.n. (T, Vt); Curtiss s.n. [Florida, 1888] (Mm--15376); Hasse s.n. (N); J. Torrey s.n. [Florida, 1835] (S). ALABAMA: Baldwin Co.: Faust s.n. [P. O. Schallert 446] (H--5462); Tracy 8050 (N, Tr). Lee Co.: Earle s.n. [Auburn, 5/10/1896] (C); Earle & Baker 1181 (C), s.n. [Auburn, 8-11-1897] (Ka), s.n. [Auburn, 10-2-1897] (N); Earle & Underwood s.n. [Auburn, 10 May 1896] (C). Mobile Co.: Bush 312 (N); Demaree 35250 (Ss); J. A. Drushel 2334 (Ur); Jewett s.n. [Mobile] (Mi, Mi); Mackenzie 4036 (N); C. T. Mohr s.n. [Mobile, June] (Mi), s.n. [June 1886] (Du--90898). County undetermined: Buckley s.n. [Pinewood] (T). MISSISSIPPI: George Co.: Ahles & Bell 7698 (Ur); Demaree 34933 (Z). Harrison Co.: Demaree 35118 (Ss); Gerhart 42 (N); Macfarlane & Goertz s.n. [Back Bay, June 10, 1905] (Up--39371); Tracy 4981 (Mi, N). Jackson Co.:

Earle s.n. [Ocean Springs] (N); Seymour & Earle 118 [Herb. Wall 5] (S); Skehan 118 (Ur), 1600 (Ml), 22587 (Ur). County undetermined: Gerhart 50 (N). LOUISIANA: Orleans Par.: Cocks s.n. [N. O., July 1899] (Tl), s.n. [N. O., July 1901] (Tl); T. Drummond s.n. [New Orleans, 1832] (S). Rapides Par.: Hale s.n. [Alexandria] (Pa). Saint Tammary Par.: Joor s.n. [Aug. 14, '88] (Tl); Langlois s.n. [14 July 1884] (I), s.n. [16.IV.1894] (I). TEXAS: Hardin Co.: M. B. Morrow s.n. [Kountze, 4.20.30] (Au); E. J. Palmer 9559 (Du-204186, S); Parks & Cory 23363 (Tr); Warner s.n. [Saratoga, April 21st] (Hu). Jasper Co.: Lundell & Lundell 10552 (Id, N). Jefferson Co.: Hooks s.n. [Beaumont, 5-30-34] (Au). Kleberg Co.: Tracy s.n. [Kingsville, 4-10-1905] (Tr). Newton Co.: Tharp 2775 (Au), 2776 (Au), 2779 (Au). CULTIVATED: Germany: Herb. Calif. Acad. Sci. 31461 (Gg). LOCALITY OF COLLECTION UNDESIGNATED: Curtiss s.n. [Southern States, 1875; Herb. Saldanha 2762] (Ja, Ka); Herb. Martius 1470 (Br); Herb. Univ. Vermont 9592-20 (Vt); Walter s.n. (Pr); A. Wood s.n. (Pa).

MATERIALS TOWARD A MONOGRAPH OF THE GENUS HIEROBOTANA

Harold N. Moldenke

This is the twenty-fourth in my series of works of monographic nature on the genera of Verbenaceae, Avicenniaceae, Stilbaceae, and Symphoremaceae. Previous genera so treated were Aegiphila Jacq., Amasonia L. f., Avicennia L., Baillonia Bocq., Bouchea Cham., Casselia Nees & Mart., Castelia Cav., Chascanum E. Mey., Citharexylum B. Juss., Cornutia Plum., Parodianthus Troncoso, Petitia Jacq., Petrea Houst., Priva Adans., Pseudocarpidium Millsp., Recordia Moldenke, Rehdera Moldenke, Rhaphithamnus Miers, Stylodon Raf., Svensonia Moldenke, Tectona L. f., Vitex Tourn., and the New World and cultivated members of Callicarpa L.

Full explanation of the abbreviations employed herein for the names of the 255 herbaria whose material was examined, in whole or in part, the the preparation of these works will be found in Phytologia 5: 154-159 (1955), 6: 242 (1958), and 7: 91-92 (1959) and 123-124 & 293 (1960).

HIEROBOTANA Briq. in Engl. & Prantl, Mat. Pflanzenfam. 4 (3a): 148. 1895.

Synonymy: Hierobotana (Kunth) Briq. ex Cavillier, Candollea 6: xxxvi. 1936. Hierobotama Briq. ex Moldenke, Prelim. Alph. List Invalid Names 27, in syn. 1940. Hierobotoma Briq. ex Moldenke, Prelim. Alph. List Invalid Names 27, in syn. 1940.